

Application of gamification for sustainable construction: an evaluation of the challenges

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Abstract

Purpose

This paper aims to identify and evaluate the challenges affecting the adoption of gamification practices in developing countries through the lens of the Nigerian construction industry.

Design/methodology/approach

A scoping literature review was conducted through which challenges to the adoption of gamification practices were identified, which helped in the formulation of a questionnaire survey. Data was obtained from construction professionals including architects, builders, engineers and quantity surveyors. Retrieved data were analyzed using several statistical tools such as percentages, frequencies, mean item scores (MIS) and exploratory factor analyses.

Findings

Based on the MIS ranking results, the top five significant challenges to the adoption of gamification were lack of capacity and expertise, lack of budgeting for innovation, lack of technical infrastructure, hesitation to adopt and limited internet connectivity. Through factor analysis, the challenges identified were categorized into five principal clusters, namely, organizational challenges, technical-related challenges, human-related challenges, data security challenges and economic challenges.

Practical implications

The identification and evaluation of the key challenges hindering the adoption of gamification practices would help construction organizations and stakeholders to understand the need to embrace and implement the concept into their activities, operations and processes to improve the engagement and motivation levels of employees.

Originality/value

To the best of the authors' knowledge, this study is the first of its kind in the study area to identify and evaluate the challenges affecting the adoption of gamification practices using a structured quantitative approach.